

Claims

1. A method for calibrating the offset of angle sensors, which determine an angle to be determined on the basis of a sine signal that can be assigned to the angle and a cosine signal that can be assigned to the angle, having the following steps:

Sub A

5 - determining the sine signal and the cosine signal for at least three different angles (1, 2, 3) to obtain at least three value pairs (Usin(1), Ucos(1); Usin(2), Ucos(2); Usin(3), Ucos(3)), each containing one sine signal and one cosine signal.

10 - displaying the at least three value pairs in an at least two-dimensional coordinate system that represents a sine signal-cosine signal plane; and

15 - determining a point, representing the offset to be calibrated, in the coordinate system with regard to which point the at least three value pairs are located on an arc.

2. The method of claim 1, characterized in that the offset Osin of the sine signal is determined in accordance with an equation

$$\begin{aligned} \text{Osin} = & 1/2 * \{U\cos(1) - U\cos(3) + [((U\sin(2) - \\ & U\sin(1)) * (U\sin(2) + U\sin(1)) / (U\cos(2) - U\cos(1))] - [(U\sin(3) - \\ & U\sin(2)) * (U\sin(3) + U\sin(2)) / (U\cos(3) - U\cos(2))] \} / [(U\sin(2) - \\ & U\sin(1)) / (U\cos(2) - U\cos(1)) - (U\sin(3) - U\sin(2)) / (U\cos(3) - \\ & U\cos(2))] \end{aligned}$$

5 and the offset Ocos of the cosine signal is determined

in accordance with an equation

Sub A15

$$Ocos = 1/2 * \{ Usin(1) - Usin(3) + [(Ucos(2) - Ucos(1)) * (Ucos(2) + Ucos(1)) / (Usin(2) - Usin(1)) - [(Ucos(3) - Ucos(2)) * (Ucos(3) + Ucos(2)) / (Usin(3) - Usin(2))]] / [(Ucos(2) - Ucos(1)) / (Usin(2) - Usin(1)) - (Ucos(3) - Ucos(2)) / (Usin(3) - Usin(2))] \},$$

wherein $Usin(i)$, $Ucos(i)$ represent the determined sensor signals for the positions $i = 1, 2, 3$.